TechRepublic
Real World. Real Time. Real IT.

BIOS beep codes list for desktops

An introduction to BIOS beep codes

When you power on your computer, the motherboard's basic input/output system (BIOS) first detects the computer's internal hardware configuration and then performs the power-on self-test (POST). The POST executes several diagnostic tests that check the basic functionality of the power supply, motherboard, CPU, I/O Bus Controller, RAM, keyboard, and video components. If the computer passes the POST, it will usually return a single short beep or two short beeps, depending on the BIOS manufacturer. If the POST detects any problems, it will halt the boot process and return an error message either visually on the screen and/or audibly through a series of beeps.

Unfortunately, there is no official standard for beep codes. Depending on the BIOS manufacturer, a keyboard controller failure could be three, four, five, or six beeps. While this document lists common BIOS manufacturer beep codes, you should always consult your motherboard's documentation, the manufacturer's Web site, and the BIOS manufacturer's Web site for a definitive beep code list for your particular BIOS. The information contained in the following lists was gathered from various BIOS manufacturers' Web sites.

AMI BIOS beep codes
http://www.ami.com/support/bios.html

Number of beeps	Problem description	Troubleshooting recommendation
1	Memory refresh timer error	Reseat memory or replace with known good chips.
2	Parity error	Reseat memory or replace with known good chips.
3	Base 64K memory read/write test failure	Reseat memory or replace with known good chips.
4	Motherboard timer not operational	Repair/replace motherboard.
5	Processor error	Repair/replace motherboard.
6	8042—gate A20 failure/Keyboard controller BAT test error	Reseat keyboard controller chip, replace keyboard controller chip, check for a keyboard fuse, or try a different keyboard.
7	Processor exception interrupt error	Repair/replace motherboard.
8	Display memory read/write failure	Replace video card or video card memory.
9	ROM checksum error/Faulty BIOS chips	Replace chips or motherboard.
10	CMOS shutdown register read/write error	Repair/replace motherboard.
11	Cache memory bad	Repair/replace motherboard.

Copyright ©2003 CNET Networks, Inc. All rights reserved.
To see more downloads and get your free TechRepublic membership, please visit
http://techrepublic.com.com/2001-6240-0.html.

TechRepublic
Real World. Real Time. Real IT.

BIOS beep codes list for desktops

Award BIOS beep codes http://www.phoenix.com/en/customer+services/bios/awardbios/default1.htm		
Number of beeps	**Problem description**	**Troubleshooting recommendation**
1 long & 2 short	Video error	Check the video card.
Any other beeps	RAM problem	Reseat the RAM or replace with known good chips.

PhoenixBIOS beep codes http://www.phoenix.com/en/customer+services/bios/phoenixbios/default1.htm		
Unfortunately, PhoenixBIOS beep codes are significantly more complicated than other BIOS manufacturers. Instead of a single beep code set, PhoenixBIOS codes consist of a series of beep code sets separated by a short pause. Older Phoenix BIOS Plus and PhoenixBIOS 1.x systems used a series of three sets, while the PhoenixBIOS 4.x systems use a series of four sets. The codes listed below are only some of the more than 100 codes for the PhoenixBIOS 4.x. For a complete list of Phoenix BIOS POST task routines and beep codes, please visit their Web site or review your motherboard's documentation.		
Number of beeps	**POST routine description/problem**	**Troubleshooting recommendation**
1	One short beep before boot	Normal operation
1-1-1-3	Verify real mode	A problem exists with the CPU and/or motherboard. Check and replace if necessary.
1-1-2-1	Get CPU type	A problem exists with the CPU and/or motherboard. Check and replace if necessary.
1-1-2-3	Initialize system hardware	A problem exists with the motherboard. Check and replace if necessary.
1-1-3-1	Initialize chipset with initial POST values	A problem exists with the motherboard. Check and replace if necessary.
1-1-3-2	Set IN POST flag	A problem exists with the motherboard. Check and replace if necessary.
1-1-3-3	Initialize CPU registers	A problem exists with the CPU and/or motherboard. Check and replace if necessary.
1-1-4-3	Initialize I/O component	A problem exists with the I/O port hardware or a device connected to an I/O port. It could also be an expansion device in the PC or the motherboard.

Copyright ©2003 CNET Networks, Inc. All rights reserved.
To see more downloads and get your free TechRepublic membership, please visit
http://techrepublic.com.com/2001-6240-0.html.

BIOS beep codes list for desktops

1-2-2-1	Initialize keyboard controller	An error has occurred with the keyboard or keyboard controller. Try a new keyboard or replace the keyboard controller on the motherboard.
1-2-2-3	BIOS ROM checksum	Replace either the BIOS ROM chip or the motherboard.
1-2-3-3	8237 DMA controller initialization	Check the motherboard and any expansion cards that use DMA.
1-3-1-1	Test DRAM refresh	Check the first bank of memory and the motherboard.
1-3-1-3	Test 8742 keyboard controller	An error has occurred with the keyboard or keyboard controller. Try a new keyboard or replace the keyboard controller on the motherboard.
1-3-4-1	RAM failure on line xxxx	Check the first bank of memory and the motherboard.
1-3-4-3	RAM failure on data bits xxxx of low byte memory bus	Check the first bank of memory and the motherboard.
2-1-3-1	Check video configuration against CMOS	Check the video card or video card memory.
2-1-3-2	Initialize PCI bus and devices	A problem exists with the I/O port hardware or a device connected to an I/O port. It could also be an expansion device in the PC or the motherboard.
2-2-1-3	Test keyboard	An error has occurred with the keyboard or keyboard controller. Try a new keyboard or replace the keyboard controller on the motherboard.
2-2-3-1	Test for unexpected interrupts	Check for a faulty motherboard or expansion card.
3-1-2-1	Detect and install external parallel ports	A problem exists with the I/O port hardware or a device connected to an I/O port. It could also be an expansion device in the PC or the motherboard.
3-1-4-1	Initialize floppy controller	Check your hard drive(s), floppy drive(s), and motherboard.
3-2-1-1	Initialize hard-disk controllers	Check your hard drive(s), floppy drive(s), and motherboard.
3-2-1-2	Initialize local-bus hard-disk controllers	Check your hard drive(s), floppy drive(s), and motherboard.
3-3-1-1	Set time of day	Check the motherboard's real-time clock (RTC).

Copyright ©2003 CNET Networks, Inc. All rights reserved.
To see more downloads and get your free TechRepublic membership, please visit
http://techrepublic.com.com/2001-6240-0.html.

BIOS beep codes list for desktops

4-2-4-3	Keyboard controller failure	An error has occurred with the keyboard or keyboard controller. Try a new keyboard or replace the keyboard controller on the motherboard.

Dell BIOS beep codes **http://support.dell.com/us/en/home.asp**	
Because Dell uses motherboards and BIOSs from several manufacturers, their computers use a variety of beep codes. Instead of listing each model's beep codes, links are provided to the support pages of several popular Dell desktops.	
Model	**System codes and messages link**
Dimension 900	http://docs.us.dell.com/docs/systems/dcaydim2/codemess.htm
Dimension 2100	http://docs.us.dell.com/docs/systems/dim2100/codemess.htm
Dimension 4100	http://docs.us.dell.com/docs/systems/dzuul/codemess.htm
Dimension 4200	http://docs.us.dell.com/docs/systems/dim4200/codes.htm
Dimension 4300	http://docs.us.dell.com/docs/systems/dim4300/codes.htm
Dimension 4300S	http://docs.us.dell.com/docs/systems/dim4300s/codes.htm
Dimension 4400	http://docs.us.dell.com/docs/systems/dim4400/codes.htm
Dimension 8100	http://docs.us.dell.com/docs/systems/dsleest/codemess.htm
Dimension 8200	http://docs.us.dell.com/docs/systems/dim8200/codes.htm
Dimension C	http://docs.us.dell.com/docs/systems/dcaydim/codemess.htm
Dimension L	http://docs.us.dell.com/docs/systems/dmum/codemess.htm
Dimension Lxxxc	http://docs.us.dell.com/docs/systems/dcol/codemess.htm
Dimension P133a, P166a, M166a, M200a, and M233a	http://docs.us.dell.com/docs/systems/dhanplus/post.htm
Dimension XPS Txxx and Txxxr	http://docs.us.dell.com/docs/systems/dkub/codemess.htm
Dimension Vxxx and Vxxxc	http://docs.us.dell.com/docs/systems/dwill/post.htm
Dimension XPS B Series	http://docs.us.dell.com/docs/systems/dmag/codemess.htm
Dimension XPS Dxxx	http://docs.us.dell.com/docs/systems/dalex/post.htm
Dimension XPS H233 and XPS H266	http://docs.us.dell.com/docs/systems/dcor/post.htm
Dimension XPS P60 FS	http://docs.us.dell.com/docs/dta/xpsp60f/00000015.htm
Dimension XPS P60 M	http://docs.us.dell.com/docs/dta/xpsp60m/00000014.htm
Dimension XPS 50/66 FS	http://docs.us.dell.com/docs/dta/xps_f/00000021.htm

Copyright ©2003 CNET Networks, Inc. All rights reserved.
To see more downloads and get your free TechRepublic membership, please visit http://techrepublic.com.com/2001-6240-0.html.

BIOS beep codes list for desktops

Dimension XPS 50/66 MDT (V4xxV)	http://docs.us.dell.com/docs/dta/xps_m/00000025.htm
Dimension XPS Rxxx	http://docs.us.dell.com/docs/systems/dkhan/post.htm
OmniPlex 5xx/ME	http://docs.us.dell.com/docs/dta/omni5xx/00000051.htm
OptiPlex G1	http://docs.us.dell.com/docs/systems/ddur/beep.htm
OptiPlex GC	http://docs.us.dell.com/docs/systems/opgc/en/ug/messages.htm
OptiPlex Gn and Gn+	http://docs.us.dell.com/docs/systems/dthred/beep.htm
OptiPlex GX1	http://docs.us.dell.com/docs/systems/ban_gx1/beep.htm
OptiPlex GX1 Small-Form-Factor	http://docs.us.dell.com/docs/systems/ban_gx1/en/ug_sdt/messages.htm
OptiPlex GX1p	http://docs.us.dell.com/docs/systems/d_gx1p/beep.htm
OptiPlex GXi	http://docs.us.dell.com/docs/systems/dzer/beep.htm
OptiPlex GX110	http://docs.us.dell.com/docs/systems/opgx110/en/ug/messages.htm
OptiPlex GX115	http://docs.us.dell.com/docs/systems/opgx115/en/ug/messages.htm
OptiPlex GX200	http://docs.us.dell.com/docs/systems/opgx200/en/ug/messages.htm
OptiPlex GX300	http://docs.us.dell.com/docs/systems/opgx300/en/ug/messages.htm
OptiPlex GXa	http://docs.us.dell.com/docs/systems/dfuj/beep.htm
OptiPlex GXpro	http://docs.us.dell.com/docs/systems/dstrmlk/postbeep.htm
OptiPlex N	http://docs.us.dell.com/docs/systems/dkill/beep.htm
OptiPlex NX	http://docs.us.dell.com/docs/systems/dfujnx/beep.htm
OptiPlex NX1	http://docs.us.dell.com/docs/systems/ban_nx1/beep.htm
OptiPlex XMT575/590/5100/5120/5133	http://docs.us.dell.com/docs/dta/586xmt/00000038.htm
Precision WorkStation 210	http://docs.us.dell.com/docs/systems/daftshk/beep.htm
Precision WorkStation 340	http://docs.us.dell.com/docs/systems/ws340/en/ug/codes.htm
Precision WorkStation 400	http://docs.us.dell.com/docs/systems/dtor/beep.htm
Precision WorkStation 410	http://docs.us.dell.com/docs/systems/deqkmt/beep.htm
Precision WorkStation 420	http://docs.us.dell.com/docs/systems/ws420/en/ug/messages.htm
Precision WorkStation 530	http://docs.us.dell.com/docs/systems/ws530/en/ug/html/2codes.htm
Precision WorkStation 610 Mini Tower	http://docs.us.dell.com/docs/systems/dvol/beep.htm
Precision WorkStation 620	http://docs.us.dell.com/docs/systems/ws620/en/ug/messages.htm
Precision WorkStation 730	http://docs.us.dell.com/docs/systems/ws730/ug/messages.htm

Copyright ©2003 CNET Networks, Inc. All rights reserved.
To see more downloads and get your free TechRepublic membership, please visit http://techrepublic.com.com/2001-6240-0.html.

TechRepublic
Real World. Real Time. Real IT.

BIOS beep codes list for desktops

HP BIOS beep codes http://welcome.hp.com/country/us/eng/support.html	
Because Hewlett-Packard uses a variety of motherboards and BIOSs, their computers use a variety of beep codes. Instead of listing each model's beep codes, links are provided to the support pages of several popular Hewlett-Packard desktops.	
Model	**System codes and messages link**
Kayak	http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?objectID=tis06334
Kayak XA-S Series 02xx	http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?objectID=lpv18636
Kayak XU Series 04xx	http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?objectID=lpv18582
Kayak XU Series 03xx	http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?objectID=lpv18635
Kayak XW Series U3-W3	http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?objectID=lpv18631
Kayak XW Series 04xx	http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?objectID=lpv18633
Pavilion Desktops with Phoenix BIOS	http://h20015.www2.hp.com/en/document.jhtml?docName=bph07107
Pavilion 5010, 5030, and 5040	http://h20015.www2.hp.com/en/document.jhtml?docName=bph01004
Pavilion 7010, Pavilion 7020, Pavilion 7030, and Pavilion 7050	http://h20015.www2.hp.com/en/document.jhtml?docName=bph01053
Vectra PCs with Phoenix BIOS (VL4, VL5, VE2, VE3, XM4, XA5, and possibly others)	http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?objectID=bpv03305
e-Vectra	http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?objectID=tis06446
Vectra VE 5/xxx Series 4	http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?objectID=lpv18434
Vectra VL600	http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?objectID=tis01866
Vectra XA5	http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?objectID=tis06112
Vectra XA 5/XXX	http://h20015.www2.hp.com/en/document.jhtml?docName=bpv03314
Vectra XE310	http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?objectID=tis13051
Workstation i2000	http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?objectID=tis07621

Copyright ©2003 CNET Networks, Inc. All rights reserved.
To see more downloads and get your free TechRepublic membership, please visit http://techrepublic.com.com/2001-6240-0.html.

BIOS beep codes list for desktops

IBM BIOS beep codes http://www.ibm.com/support/us/	
Because IBM uses a variety of motherboards and BIOSs, their computers use a variety of beep codes. Instead of listing each model's beep codes, links are provided to the support pages of several popular IBM desktops.	
Model	**System codes and messages link**
Aptiva 2134 and 2176	http://www-1.ibm.com/support/docview.wss?uid=psg1DETR-44DPDQ
Aptiva 2137, 2138	http://www-1.ibm.com/support/docview.wss?uid=psg1DETR-43VMUY
Aptiva 2140 and 2142	http://www-1.ibm.com/support/docview.wss?uid=psg1PMYS-3KWRR2
Aptiva 2144 and 2168	http://www-1.ibm.com/support/docview.wss?uid=psg1DETR-3SRSAB
Aptiva 2156	http://www-1.ibm.com/support/docview.wss?&uid=psg1DETR-3ZNMD5
Aptiva 2158, 2163 and 2164	http://www-1.ibm.com/support/docview.wss?uid=psg1DETR-42QQY6
Aptiva 2159	http://www-1.ibm.com/support/docview.wss?uid=psg1DETR-42JU2A
Aptiva 2162	http://www-1.ibm.com/support/docview.wss?uid=psg1COBN-3G2DCZ
Aptiva 2165	http://www-1.ibm.com/support/docview.wss?uid=psg1MIGR-484PZ9
Aptiva 2170, 2171, and 2172	http://www-1.ibm.com/support/docview.wss?uid=psg1MIGR-48UPZ9
Aptiva 2187	http://www-1.ibm.com/support/docview.wss?uid=psg1MIGR-4CGQAM
Aptiva 2190	http://www-1.ibm.com/support/docview.wss?uid=psg1MIGR-4CURG4
Aptiva 2193, 2194, 2196 and 2197	http://www-1.ibm.com/support/docview.wss?uid=psg1MIGR-4HHM4H
IBM PC300 Type 6344 and 6345	http://www-1.ibm.com/support/docview.wss?uid=psg1MIGR-4HHM4H
NetVista 2194, 2196, 2197, and 6345	http://www-1.ibm.com/support/docview.wss?uid=psg1MIGR-4HHM4H
NetVista 6269, 6578, and 6579	http://www-1.ibm.com/support/docview.wss?uid=psg1MIGR-4L4TT5

Copyright ©2003 CNET Networks, Inc. All rights reserved.
To see more downloads and get your free TechRepublic membership, please visit
http://techrepublic.com.com/2001-6240-0.html.